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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,678	12/13/2000	Siva Subramanian	7000-047	7990

27820 7590 05/05/2004

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EXAMINER

GOLD, AVI M

ART UNIT PAPER NUMBER

2157

DATE MAILED: 05/05/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

5x

Office Action Summary

Application No.

09/736,678

Applicant(s)

SUBRAMANIAN ET AL.

Examiner

Avi Gold

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to the application filed December 13, 2000. Claims 1-46 are pending. Claims 1-46 represent distributed computation in network devices.

Specification

1. The disclosure is objected to because of the following informalities: status of related applications needs to be updated. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Denecheau et al., U.S. Patent No. 6,611,874.

Denecheau teaches the invention as claimed including a method for statistically improving routing within an Internet, and more particularly for improving next hop selection between internetwork routers (see abstract).

Regarding claim 1, a method for distributing processing among routing nodes capable of providing application level support during routing, the method comprising:

a) identifying processing resources required to provide application level support during routing for select traffic (col. 3, lines 43-58; Denecheau discloses next hop selection identifiers);

b) selecting at least one routing node capable of providing the processing resources required to provide the application level support for the select traffic (col. 6, lines 66-67; col. 7, lines 1-20; Denecheau discloses a protocol processing the packet); and

c) routing the select traffic through the at least one routing node capable of providing the processing resources required to provide the application level support, wherein the at least one routing node provides the application level support for the select traffic while routing the select traffic (col. 6, lines 66-67; col. 7, lines 1-20; Denecheau discloses a routing method that enables optimization of traffic).

Regarding claim 2, the method of claim 1 wherein the at least one routing node is at least one of a plurality of routing nodes that can provide the application level support for the select traffic and the selecting step further comprises determining the at least one routing node from the plurality of routing nodes to provide the application level support in a manner to balance processing load among the plurality of routing nodes (col. 6, lines 66-67; col. 7, lines 1-20; Denecheau discloses balancing traffic over different routes).

Regarding claim 3, the method of claim 1 wherein the at least one routing node is at least one of a plurality of routing nodes that can provide the application level support for the select traffic and the selecting step further comprises determining the at least one routing node from the plurality of routing nodes based on available processing capacity of the at least one routing node to provide the application level support (col. 6, lines 50-67; Denecheau discloses avoiding overrunning the capacity of the receiving station).

Regarding claim 4, the method of claim 1 wherein the at least one routing node is at least one of a plurality of routing nodes that can provide the application level support for the select traffic and the selecting step further comprises determining the at least one routing node from the plurality of routing nodes based on available processing capacity of the plurality of routing nodes and the at least one routing node to provide the application level support (col. 6, lines 50-67).

Regarding claim 5, the method of claim 1 wherein the selecting step selects a plurality of routing nodes through which to route the select traffic to distribute the application level support for the select traffic and the routing step routes the select traffic to facilitate distribution of the application level support such that processing for the application level support is distributed among the plurality of routing nodes while routing the select traffic (col. 6, lines 66-67; col. 7, lines 1-20, 59-65; Denecheau discloses processing done at the routing nodes).

Regarding claim 6, the method of claim 5 wherein the selecting step further comprises selecting the plurality of routing nodes within one routing path such that all of the select traffic is routed through each of the plurality of routing nodes and processing for the application level support is distributed among the plurality of routing nodes while routing the select traffic (col. 6, lines 66-67; col. 7, lines 1-20, 59-65).

Regarding claim 7, the method of claim 5 wherein the selecting step further comprises selecting the plurality of routing nodes within different routing paths such that a different portion of the select traffic is routed through each of the plurality of routing nodes and processing for the application level support is distributed among the plurality of routing nodes while routing the select traffic (col. 5, lines 22-51; col. 6, lines 66-67; col. 7, lines 1-20, 59-65; Denecheau discloses packets following a different path).

Regarding claim 8, the method of claim 7 wherein the selecting step further comprises selecting the plurality of routing nodes wherein at least two of the plurality of routing nodes are within one of the different routing paths such that processing for the application level support for the portion of the select traffic routed through the at least two of the plurality of routing nodes is distributed between the at least two of the plurality of routing nodes (col. 5, lines 22-51; col. 6, lines 66-67; col. 7, lines 1-20, 59-65).

Regarding claim 9, the method of claim 1 wherein the selecting step further comprises:

a) identifying possible routing paths between a source and destination for the select traffic, each of the possible routing paths including at least one routing node capable of providing the processing resources required to provide application level support for the select traffic (col. 3, lines 43-58);

b) identifying a capacity of the at least one routing node in the possible routing paths to provide the processing resources (col. 6, lines 50-67); and

c) determining at least one of the possible routing paths through which to route the select traffic based on the capacity of the at least one routing node in the possible routing paths to provide the processing resources (col. 6, lines 50-67).

Regarding claim 10, the method of claim 9 further comprising allocating resources of the at least one routing node along the at least one of the possible routing paths to provide the processing for the application level support while routing (col. 6, lines 66-67; col. 7, lines 1-20, 59-65).

Regarding claim 11, the method of claim 1 where the selecting step further comprises:

a) identifying possible routing paths between a source and destination for the select traffic, each of the possible routing paths including at least one routing node

capable of providing the processing resources required to provide application level support for the select traffic (col. 3, lines 43-58);

b) identifying capacities of a plurality of routing nodes among the possible routing paths to provide the processing resources (col. 6, lines 50-67); and

c) determining at least one of the possible routing paths through which to route the select traffic based on the capacity of the plurality of routing nodes in the possible routing paths to provide the processing resources (col. 6, lines 50-67).

Regarding claim 12, the method of claim 11 wherein the selecting step further comprises distributing processing among the plurality of routing nodes to provide the application level support for the select traffic (col. 6, lines 66-67; col. 7, lines 1-20, 59-65).

Regarding claim 13, a method for distributing processing among multiple routing devices capable of providing application level support, the method comprising:

a) determining processing resources necessary for application level support of traffic to be routed (col. 3, lines 43-58);

b) monitoring available processing capacity available on a plurality of routing nodes capable of providing the application level support and routing the traffic (col. 6, lines 50-67);

c) identifying at least two of the routing nodes having combined processing capacity to provide the application level support necessary for the traffic to be routed (col. 5, lines 22-51; col. 6, lines 50-67; col. 7, lines 1-20, 59-65); and

d) routing the traffic in a manner allowing the at least two routing nodes to provide the processing for the application level support (col. 5, lines 22-51; col. 6, lines 50-67; col. 7, lines 1-20, 59-65).

Regarding claim 14, the method of claim 13 further comprising determining how to distribute the processing for the application level support among the at least two routing nodes based on the processing resources necessary for application level support (col. 5, lines 22-51; col. 6, lines 50-67; col. 7, lines 1-20, 59-65).

Regarding claim 15, the method of claim 13 further comprising determining how to distribute the processing for the application level support among the at least two routing nodes based on the processing resources necessary for application level support (col. 5, lines 22-51; col. 6, lines 50-67; col. 7, lines 1-20, 59-65).

Claims 16-46 do not teach or define any new limitations above claims 1-15 and therefore are rejected for similar reasons.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 5,167,033 to Bryant et al.
U.S. Pat. No. 6,424,621 to Ramaswamy et al.
U.S. Pat. No. 6,286,052 to McCloghrie et al.
U.S. Pat. No. 6,078,953 to Vaid et al.
U.S. Pat. No. 6,044,075 to LeBoudec et al.
U.S. Pat. No. 5,495,426 to Wacławsky et al.
U.S. Pat. No. 5,854,899 to Callon et al.
U.S. Pat. No. 6,289,389 to Kikinis.
U.S. Pat. No. 6,151,633 to Hurst et al.
U.S. Pat. No. 5,377,327 to Jain et al.
U.S. Pat. No. 6,226,267 to Spinney et al.
U.S. Pat. No. 6,570,867 to Robinson et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Avi Gold whose telephone number is 703-305-8762.

The examiner can normally be reached on M-F 8:00-5:30 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 703-308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

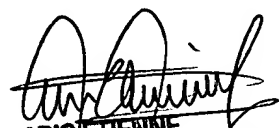
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Avi Gold

Patent Examiner

Art Unit 2157

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